

## Some applications of factorable matrices

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**Abstract.** Matrix transformations between sequence spaces, whether classical or not, are the subject of numerous publications. However, it seems that there is still a particular gap. Actually, the characterization of the matrix class  $(\ell_p, \ell_q)$  for arbitrary  $p$  and  $q$  ( $1 < p, q < \infty$ ) is still unknown. Among the results related to some special cases, the results of Grahame Bennett [1–3] and Karl-Goswin Grosse-Erdmann [4] have inspired us to think about the mentioned class of matrix transformations. Furthermore, the application of existing results can go in two directions. Firstly, we can extend the research to new sequence spaces related to  $\ell_p$  ( $1 < p < \infty$ ) and characterize certain matrix class. Further, we can find some new results that treat some known matrices as factorable.

**Keywords:** sequence spaces; matrix transformations; factorable matrices; matrix domains of triangle.

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